somewhat from the other bird. Briefly speaking, it did not begin throwing off its feathers until the summer was somewhat advanced, and took less time to complete its moult than the Aru-Island bird.

Habits in captivity.—Besides being active and vigorous, as stated by Wallace, the Great Bird of Paradise is amusing and demonstrative, possessing many of the characteristics of a Magpie and Bhimraj (*Dissemurus paradiseus*), but is liable to be stupid and helpless when the economy of its ordinary mode of life is in any way disturbed. At least such has been observed to be the case with the Aru-Island bird. It behaved in a very strangely stupid manner when let out in a large and lofty aviary a few days after its arrival. Perhaps the vastness of the place bewildered and frightened it. It, however, recovered its equanimity shortly after being placed in its old and accustomed cage. It is very fond of dancing, but want of company evidently acts as a check upon this passion. It has a loud and deep note, which it constantly utters with infinite variation and modulation. It maintains excellent health upon diet consisting of a teacupful of bread and milk in the morning, half a papya-fruit in the forenoon, and a few grasshoppers or cockroaches the last thing in the afternoon. Its low subdued chuckles and grunts while taking the insects from off the fingers of the keeper clearly show its great insectivorous propensity. It very much enjoys a shower-bath, administered by a garden syringe, twice a week during summer. The smaller bird (said to have been from the southern part of New Guinea) was less demonstrative; but this might have been its individual peculiarity.

3. On the Mammals of Aden.

By Col. J. W. Yerbury and Oldfield Thomas.

[Received May 29, 1895.]

The present paper is based on the collections made by Yerbury at and near Aden in February and March of this year, and, as there has been remarkably little recorded about the mammals of this southern point of Arabia, we have added to the list two species not represented in the collection, but mentioned by other authors, and have thus made the paper contain a complete list of the mammals as yet known to occur in the district of Aden.

The only two papers that we know of mentioning Aden mammals are:—

(1) Monticelli, F. S. "Note Chirotterologiche."[1] (1887.) [Description of *Vespertilio dogalensis*, and record from Aden of *Hipposiderus tridens*, *Nycteris thebaica*, *Rhinopoma microphyllum*, and *Xantharpyia straminea*.]

(2) Matschie, P. "Ueber einige von Herrn Oscar Neumann bei Aden gesammelte und beobachtete Säugethiere."[2] (1893.) [Notice of *Papio hamadryas*, *Xantharpyia straminea*, *Scotophilus schlieffeni*, and *Hystrix* "*africæ-australis*."]

[1] Ann. Mus. Genov. (2) v. p. 517. [2] SB. Ges. nat. Freund. 1893, p. 24.

Examples of all the above-mentioned animals were collected by Yerbury, with the exception of the Baboon and Monticelli's new Bat, *Vespertilio dogalensis*; and he also obtained or observed examples of 29 additional species, bringing up the total to 36, a number which is more than could have been expected from so barren a place.

Of these additional species four are Gerbilles, all of which, to our surprise, prove to be quite distinct from any species found elsewhere, and have therefore had to be described as new.

On the whole, judging by the numbers of specimens of each sort brought home, we think it probable that there are not many more terrestrial species to be obtained at Aden, however many Bats or marine mammals may hereafter be found to occur there. At the same time, Yerbury believes that a second Fox and a second Hare are to be found in the district, while, as will be seen below, several animals, of the existence of which he has certain personal knowledge, escaped capture during his last visit.

The following account of the localities is contributed by Yerbury :—

The peninsula of Aden is situated in lat. 12° 47′ N. and long. 44° 59′ E., and is, roughly speaking, five miles in its greatest length and three miles in breadth. The centre of the peninsula is formed by the Shum Shum Range, the highest peak of which rises to 1760 feet. From this range spurs run down to the sea, with deep ravines between them ending at the sea in sandy beaches. On the north side an elevated plateau lies between this range and the cantonment of Aden (the Crater); this plateau being deeply cut by watercourses, the greater number of which form the feeding-channels supplying the tanks. The peninsula is united to the mainland by a low, sandy, barren isthmus, about two miles long by three-quarters of a mile broad.

Near Shaik Othman, five miles from the Barrier Gate, the aspect of the country alters slightly, the plain being covered with salsola bushes, while round Shaik Othman itself a considerable amount of cultivation has sprung up in the last few years. Onwards inland the plain continues with some stunted salsola, baubal, and caper bushes—in a few places the baubals having grown into good-sized trees; and so with a few rolling sand-hills here and there the plain runs on until the outskirts of cultivation round Al Hautah (Lahej) are reached, about sixteen miles from the Barrier Gate. About three miles beyond this point the town of Al Hautah is arrived at, while eight miles beyond Al Hautah is Haithalhim, with the remains of an old garden; close by the river bifurcates, and it is between the branches of this fork that the bulk of the cultivation lies.

This oasis is very fertile and produces jowari, Indian corn, telli, and other crops; there are, too, a few gardens with almond, cocoa-nut, and other trees, and several groves of date-palms. From near Haithalhim to Zaidah (six miles) the river runs in a single bed; there is always water in this part of the river (though in dry seasons the water loses itself in both branches close to Haithalhim). There

is a good deal of cultivation in the bed, but the greater part of it is choked up with a growth of gigantic reeds. Away from the bed of the river the country on both sides is an absolute desert. About eight miles beyond Zaidah the outlying spurs of the mountains are reached. The rise of the land between the Barrier Gate and Zaidah is probably under 100 feet; the cliffs at Haithalhim and other places are quite 40 feet high, showing that the river has cut itself a bed to this depth in the soft soil.

The places collected at were Aden, Shaik Othman, Lahej, and Haithalhim, and all these places may be considered of the same altitude. Aden itself, *i. e.* the peninsula, is entirely composed of volcanic rock. The mammals are Monkeys, Foxes, an occasional Jackal, two species of Rat, a spiny Mouse, two species of Shrew, several species of Bat, and probably the Common Mouse, the Musk-Rat, and a species of Bandicoot. The greater part of the maritime plain inland has been at some period under the sea, but round Lahej a great amount of detritus brought down by the river has been deposited. The Arabic names of the various mammals met with are as follows :—

Monkey : *rubba*.
Fruit Bats : *sir*, or, perhaps nearer, the "Zumerset" *zurr*.
Nycteris thebaica : *choef*, probably applied to all small Bats.
Fox : *darain* ; occasionally *taleb*.
Hare : *ărnub*.
Hyena : *dhĕb*.
Porcupine : *qendebah*.
Gazelle : *dobbi*.
Ibex : *weàl*.

One other place may be worthy of notice, and that is the island in Ras Fakoum Bay beyond Little Aden. On this island is a large cavern, large enough to admit a ship's gig, which swarms with Bats. Three species were obtained there—*Coleura afra* in small colonies by themselves, and *Hipposideros tridens* and *Tricnops persicus* mixed up together. As the cave is lofty, all specimens have to be shot, and the walls of the cave rising straight out of the sea the specimens when shot fall into the water; this of course does not improve them as such.

One word as to the names of places visited : the name of the Arab town inland from Aden is Al Hautah, while the name Lahej appears applicable to the whole of the territory of the Abdali Tribe ; but as it is always customary to talk of the town as Lahej, we have done so here.

All the specimens mentioned in this paper have been presented to the British Museum.

The determination of Arabian mammals presents in some ways unusual difficulty, owing to the fact that the Indian and African faunas meet here, and that species described from each, without reference to the other, often prove to be unexpectedly similar. Arabian animals may therefore often be apparently with equal

reason assigned to one or other of two forms usually supposed to be quite distinct.

This very difficulty, however, renders the present collection all the more valuable as an aid to future workers on the subject.

It may be noted that only two terrestrial non-volant species can be said to be distinctly African, namely, *Papio hamadryas* and *Arvicanthis variegatus*, while the same number (*Hystrix leucura* and, if correctly determined, *Gazella bennetti*) are Indian. The Bats are nearly wholly African.

1. Papio hamadryas (L.).

The Aden Monkey is recorded under this head by Matschie. No specimen was brought home by Yerbury, but one was seen at Haithalhim in March. In Aden itself the Lascars at the signal-station on the Shum Shum Range stated that a flock of 12 or 13 individuals frequented the crest of the ridge. Monkeys were heard near the last locality but not seen.

2. Xantharpyia straminea, Geoffr.

a–e. 5 specimens. Lahej.

These Bats were plentiful in the Sultan's garden at Lahej on the occasion of the first visit on March 5: they frequent the tops of the tallest palm-trees, where they collect in large ball-like clusters, but are by no means easy to see; in fact, were it not for the characteristic Flying Fox chattering that they keep up incessantly they would probably be overlooked altogether. After being shot at on the above-mentioned date the bulk disappeared and only one or two stray specimens were seen up to date of departure from Lahej at the end of the month.

3. Xantharpyia ægyptiaca, Geoffr.

a–i. 9 specimens. Lahej. 21–29. III. 95.

In great numbers in a cave on the banks of the Wady Jughur near Lahej. A female, killed on the 29th, had a single young one at her breast, and other gravid females had single fœtuses only.

We use the name *ægyptiaca* provisionally, as there does not seem to be any tangible difference between these specimens and examples from Egypt; but the proper relationships of and differences between *X. ægyptiaca*, *X. amplexicaudata*, and *X. collaris* much need investigation with larger material.

4. Triænops persicus (Dobson).

a–e. Cave on island in Ras Fakoum Bay (Little Aden). 6. IV. 95.

In great numbers at this locality on the above date. There were a few foxy-red specimens (one of which was obtained) to be seen among the others.

As to the cause of the foxy colour observable in certain individuals we are quite unable to make any suggestion. All the specimens

are males, and the one red individual does not appear to differ from the others in age or in the development either of its facial glands or reproductive organs [1].

5. Hipposiderus tridens, Geoffr.

a, *b*. Lahej. 3 and 27. III. 95.
c–*l*. Island in Ras Fakoum Bay, in cave. 6. IV. 95.

Although only two specimens of this Bat were obtained at Lahej it does not appear to be uncommon there. At the second locality it was very plentiful. Each gravid female contained a single fœtus.

6. Nycteris thebaica, Geoffr.

a–*f*. Lahej. 3. III. 95.
g. Lahej. 6. III. 95.
h–*k*. Lahej. 18. III. 95.

This Bat was very plentiful in the bungalow at Lahej, and could always be caught during the small hours of the night in the bath-room with a butterfly-net. They fed on various species of orthoptera, a great number of wings of locusts and grasshoppers being littered about the floor below where they had been hanging to the rafters of the bath-room. This is an early flying Bat and follows (at Lahej) *H. tridens* soon after dusk. As usual, the gravid females had each only a single fœtus.

7. Scotophilus schlieffeni, Peters.

a, *b*. Lahej. 12. III. 95.

Three of these Bats came into the bungalow at Lahej about 8 P.M. on the above date, two of which were caught in the butterfly-net. This was the only occasion the species was met with.

In using the word *Scotophilus* we provisionaly accept the opinion of Dr. Harrison Allen as to the distinctness from each other of the American and Old World members of the group, to which if united the name *Nycticejus* would apply.

8. Vespertilio (Leuconoë) dogalensis, Monticelli.

No specimens of this Bat were met with, nor in fact any representatives of the great genera *Vesperugo* or *Vespertilio*, in both of which the whole Arabian region seems to be singularly poor.

9. Coleura afra (Peters).

a, *b*. Cave in island Ras Fakoum Bay (Little Aden). 6. IV. 95.
c–*j*. Cave at Aden. 13. IV. 95.

A few of these Bats were found in the first of these localities—a lofty cave with direct communication with the sea, and with deep water everywhere. Although a great number of *Triænops persicus* and *Hipposiderus tridens* were also found in the same cave, this

[1] Compare J. A. Allen, Bull. Am. Mus. N. H. vi. p. 248 (1892), where a parallel variation in *Chilonycteris davyi* is shown to be "independent of sex, age, or season."

Bat kept itself entirely separate from them. The second locality was also a cave near sea-level, but, although communicating with the sea, its general level was above high-water mark; here *C. afra* was in considerable numbers, and was apparently the only species present. Each gravid female had, as usual, only a single fœtus.

10. Taphozous perforatus, Geoffr.

a. Lahej. 22. III. 95.
b. ♀. Lahej. 29. III. 95.

These two specimens were obtained in the same cave as *Xantharpyia ægyptiaca*. Only these two species were seen in this cave, or, rather, tunnel, where a stream from the cultivated lands above to the bed of the Wady below had first cut and then burrowed its way underground.

Specimen *b* contained a single fœtus.

11. Rhinopoma microphyllum, Geoffr.

a. ♀? Aden. 9. IV. 95. In small cave alone.

This was the only specimen met with, although four or five Bats had been reported to have been seen in the cave (up among the rocks) a day or two previous.

12. Crocidura russula (Herm.).

a. Aden. 1885.

This Shrew, collected and presented to the Museum by Yerbury in 1885, was examined and identified as "*Crocidura aranea*" by Dr. Dobson—an identification which we provisionally accept, although not without some doubts on the subject.

We apply to this species the name *russula* instead of *aranea*, for the reasons set forth by Thomas in the 'Zoologist' for 1895[1].

13. Crocidura (Pachyura) etrusca, Savi.

a. Aden. 1884.
b. Lahej. 17. III. 95.

This determination, like the last, is that of Dr. Dobson, in whose writing the 1884 specimen is labelled.

14. Erinaceus, sp. inc.

A Hedgehog is sometimes to be seen for sale in Aden, but the inhabitants of the neighbourhood of Lahej do not seem to know the animal; it appears probable, therefore, that these specimens have been brought either from the Somali coast or from the neighbourhood of Makullah to the N.E. of Aden.

15. Felis maniculata, Rüpp.

a. ♂. Domesticated. Aden. 18. II. 95.
b. Neighbourhood of Daraimia, shot by Mr. C. Chevallier, Eastern Telegraph Co.

[1] P. 62.

This is probably the Cat occasionally seen near the edge of the desert. When Yerbury was shooting Sand-Grouse in the neighbourhood of Shulaif, in company with Mr. Chevallier, the latter said that he had fired at a large Cat, but had not bagged it.

16. Felis caracal, Güld.

Two specimens of this Lynx are known to be have been obtained in the neighbourhood of Aden: one is in the possession of Mr. Chevallier, and was shot by him near Haithalhim in the year 1884 or 1885; the other was obtained later on by another *employé* of the Telegraph Company, but exactly when and where was not recorded.

17. Herpestes, sp. inc. (probably *H. albicauda*, Cuv.).

A Mungoose was seen at Haithalhim. The white-tailed species has been recorded by Thomas from Muscat, and no doubt occurs at Aden.

18. Hyæna hyæna, Linn.

A Striped Hyæna was brought into Aden from the neighbourhood of Bir Ahmed, and was seen by Mr. C. Chevallier. Hyænas are reported to have been seen in the neighbourhood of Camp Aden; but this is the only authenticated record of its existence that is forthcoming.

19. Canis aureus, Linn. (or *anthus*, Geoffr.).

A Jackal is without doubt to be found in the neighbourhood: one was seen near the Municipal bungalow at Shaik Othman, and another in Aden itself near the Isthmus position.

20. Vulpes nilotica, Geoffr. (?)

a, *b*. ♂ ♀. Shaik Othman. 5. IV. 95.

The form obtained appears to be the common one in Aden itself and round the isthmus, that seen in the desert being altogether a brighter coloured animal.

In the present somewhat chaotic state of our knowledge of Foxes we do not venture to assign these specimens positively to *V. nilotica* or any other species; but there seems to be so little difference between them and Egyptian examples, that we propose to use this name for the present. We may note that some at least of the specimens from Muscat, determined by Thomas[1] as *V. leucopus*, Bly., are really the same as the present comparatively large animal; while others, again, agree very closely with Rajputana examples of Blyth's species, as Blanford has pointed out[2].

Yerbury saw at Daraimia an individual of what he believed to be a second species of Fox, but was unable to procure a specimen. Perhaps this will prove to be the true *V. leucopus*.

[1] P. Z. S. 1894, p. 450.
[2] Mamm. Brit. Ind. p. 152 (1888).

21. Gerbillus (Dipodillus) pœcilops, sp. n.

a–c. Lahej. 20–29. III. 95.
d–g. Shaik Othman. 2–3. IV. 95.

Size medium among Gerbilles in general; trunk larger than in *G. campestris*; but ears, feet, and tail shorter, the feet especially bearing to the size of the head and body the proportion found in *Mus* rather than *Gerbillus*. Fur short, soft, and sleek. General colour rich fawn, rather greyer on the back, brighter on the sides. Face with the usual supraorbital and post-auricular white patches very prominent; white of the lips and chin ascending on the cheeks nearly to the lower eyelid. On the top of the nose a distinct black patch. Ears very small and narrow, laid forwards in a spirit-specimen they only just reach to the posterior canthus of the eye; the anterior half of their outer surfaces thinly haired. fawn, the remainder naked; a large naked patch on the sides of the head behind and below their outer bases. Under surface, whole of fore limbs, front of hind limbs, and top of feet pure white. Palms as usual in the subgenus. Soles wholly naked, granulated distally, with six pads, as in typical *Dipodillus*, but the two proximal pads exceedingly small. Tail short, little, if at all, longer than the head and body; the hairs of its upper surface brown or black, not or scarcely elongated terminally, of its sides and lower surface white.

Skull strongly built, with heavy overhanging supraorbital ridges, somewhat like those of many Meriones, and forming rudimentary postorbital processes. Bullæ rather large, about as in average specimens of "*Hendecapleura*." Molars small and delicate.

Dimensions of an adult male, preserved in spirit:—

Head and body 107 millim.; tail 109; hind foot 23·5; ear 11 × 7·7.

Skull (of the type): basal length 26·2; greatest length in middle line 30·5; zygomatic breadth (c.) 17·2; nasals 11·5 × 3·4; interorbital breadth 5·9; tip to tip of postorbital processes 10·3; interparietal 3·3 × 6·8; palate length from henselion 14; diastema 8·5; palatal foramina 4·5; upper molar series 3·6; greatest oblique diameter of bullæ 11.

Type. Skin *c*. B. M. No. 95.6.1.64.

This species differs so widely from all others known to us that we are unable to say what is its nearest ally. Its unusual proportions, its short ears, feet, and tail, compared with its heavy head and body, render it quite unlike the ordinary graceful Gerbilles. It will be seen from the measurements that the hind foot is actually shorter than the basal length of the skull, while in all other Gerbilles known to us it is longer.

With regard to its subgenus, we think that the characters of this and the next species render the distinction of *Hendecapleura* from *Dipodillus* exceedingly doubtful, as both present, with six posterior pads, the larger bullæ characteristic of *Hendecapleura*. While doubtful about this point, however, we should like to say a word of appreciation of Lataste's remarkable, and, we believe,

thoroughly sound, revision of the group, in which he evolved something like order out of chaos.

This pretty species seemed to be common, both at Lahej and Shaik Othman.

22. Gerbillus (Dipodillus) lixa, sp. n.

a. Skin. Shaik Othman. 24. II. 95.

b, *c*. Skins; *d*. In spirit. Lahej. 26–29. III. 95.

Size, proportions of trunk and tail, and general colour and appearance very much as in *Mus bactrianus*; that is to say, the pallid desert form of *Mus musculus*. Colour above greyish fawn, the slaty basis to the hairs showing through. Face-markings as in *G. pœcilops*, although much less prominent; supraorbital and postauricular white, and dark nasal spots present. Ears small, laid forwards in a spirit-specimen they just reach to the posterior canthus of the eye. Under surface and fore and hind limbs pure white throughout; hind feet very thick and lumpy; palms and soles as in *G. pœcilops*—*i. e.*, naked with five anterior and six posterior pads, the proximal plantar ones very small. Tail short, scarcely longer than the head and body, brown above, white below, its terminal inch very inconspicuously tufted.

Skull, compared with that of *G. nanus* or *G. simoni*, broader and heavier, with a much broader muzzle. Bullæ larger than in *G. simoni*, smaller than in *G. nanus*. Laminæ of molars directly transverse.

Dimensions of the type, a slightly immature female, measured in the flesh by collector:—

Head and body 65 millim.; tail 75; ear 8·5.

Skull: basal length 19·2 × 24; zygomatic breadth 13·7 × 8·4; nasals 2·4 × 4·7; interparietal 3·1 × 6·6; diastema 6·5 × 3·5; greatest diameter of bulla 8·9.

An adult male in spirit measures: head and body 70; tail 74; hind foot 21; ear 9 × 6·5.

Type. Skin *a*. B. M. No. 95.6.1.67.

This little Gerbille most nearly resembles *G. nanus*, Blanf., and its allies, but differs from any of them by its heavy lumpy feet and short and little crested tail. *G. bottæ*, Lat., of the distinction of which from *G. nanus* we are at present unable to satisfy ourselves, was founded on a specimen with a mutilated tail; but Sundevall's "*Gerbillus gerbillus*, Oliv.," likewise from Sennaar, had a tail 115 millim. long, and probably represents Lataste's species, although the latter author assigns it to his *G. quadrimaculatus*. The last-named and *G. dasyurus*, Wagn., are both long-tailed forms. One short-tailed Gerbille, *G. simoni*, Lat., has been described from Algeria; but, as is shown by a co-type in the British Museum, it differs from *G. lixa* by its much brighter coloration, its even shorter tail, and its smaller bullæ.

Specimens *b*, *c*, and *d* were caught in the cook-house of the bungalow at Lahej, and were brought to Yerbury as "mice," the habits as well as colour of which they therefore seem to imitate.

It was said to be not unusual for this animal to occur in the houses of the natives.

Specimen *a* was dug out of the sand.

23. Gerbillus ("Hendecapleura") famulus, sp. n.

a. ♀. Lahej. 10. III. 95.

Size about as in *G. campestris*. General colour, so far as can be seen in an imperfect spirit-specimen, similar to other small fawn-coloured Gerbilles, the usual whitish marks on cheeks, in front of and behind eyes, and at bases of ears apparently present; middle line of face, however, greyer, especially on the nose. Ears large, the anterior half of their outer surface thinly clothed with blackish hairs. Whole of under surface and backs of hands and feet pure white. Palms with two carpal pads as usual. Soles wholly naked, granulated distally, with four small pads only. Tail of type imperfect, but on the three inches of it present the hairs above are white with blacks tips, below wholly white.

Skull long and narrow, in size and general form not unlike, though larger than, that of *G. gerbillus*, widely separated as the two species really are. Muzzle remarkably long and slender, the nasals overhanging the incisors anteriorly to a quite unusual extent. Supraorbital edges well-rimmed, the rims thickened. Interparietal broad transversely, short antero-posteriorly. Bullæ rather large, approaching those of *G. gerbillus*, far larger than those of *G. campestris*; front wall of meatus slightly swollen. Inner cusp of middle lamina of m.[1] slightly anterior to outer cusp.

Dimensions of the type, an adult female skin, preserved in spirit[1]:—Head and body (c.) 90 millim.; tail imperfect, 70 × . . .; hind foot 27·7; ear 16 × 10.

Skull: basal length 25·8; extreme length in middle line 31·4; greatest breadth 16; nasals 12·7 × 3·2; interorbital breadth 5·8, interparietal 3·4 × 8; palate length from henselion 13; diastema 7·9; palatal foramina 5; length of upper molar series 4·1; greatest oblique diameter of bullæ 11·2.

Type. B.M. No. 94.6.1.28.

This pretty little Gerbille is a typical member of the group to which Lataste applied the name of *Hendecapleura*, a group from which *Gerbillus* (*sens. strictiss.*) differs in its hairy feet and single carpal pad, and *Dipodillus* in its six plantar pads and smaller bullæ, although, as already noted, the latter seems to be connected with it by intermediate species.

The nearest ally of *G. famulus* is perhaps the Algerian *G.* (*H.*) *garamantis*, Lat., from which it differs by its decidedly greater size. *G. dasyurus*, *bottæ*, *quadrimaculatus*, and *nanus* are also all much smaller, while *G. persicus*, Blanf., which has the same foot-structure, is enormously larger.

The single specimen of this Gerbille was trapped at the mouth of the burrow of *Meriones rex*.

[1] The specimen was intended for a skin, but the hairs commencing to fall it was put into spirit, never having been allowed to dry. The ear and feet measurements are therefore exact, while that of the body is merely approximate.

24. MERIONES REX, sp. n.

a–g. Seven specimens, ♂ ♀. Lahej. 6–10. III. 95.

Most closely allied to *M. shawi*, Duv. & Ler., which ranges from Algeria through Tunis and Egypt as far as the Sinaitic Peninsula. Size larger, form stouter and heavier. Fur short, poor and rather harsh, very different to the beautiful fur of *M. shawi*. General colour dirty fulvous brown above, and this colour, at least in the old specimens, extends all over the underside as well; in younger specimens, however, the underside is whitish as usual. Ears much as in *M. shawi*, but rather more thinly haired, and the whitish spot behind their outer bases less sharply defined. Hands as in *M. shawi*, the usual two large wrist-pads present. Feet very large and heavy; upper surface of metatarsals with a slight but distinct blackish suffusion; digits dull whitish; soles almost or wholly naked, the few minute hairs not hiding in any way the usual *Meriones*-structure of the skin and pads. Tail long, thick, cylindrical, uniform grizzled fawn above and below throughout, except that the hairs on the top of the terminal two inches are lengthened to form a crest, which varies in colour from black to brown.

Skull-differences are in this genus very difficult of description, owing to the great variation that takes place with age, so that it is always difficult to find specimens which may be properly compared with each other, without disturbance by the factor of age. However, among 16 skulls in the Museum collection referred with more or less certainty to *M. shawi*, there are none so large as that of the type of *M. rex*, none have such long and narrow interparietals, or have their auditory meatus so little swollen anteriorly. The bullæ are, if anything, slightly smaller in the new form than in *M. shawi*, and show therefore no approach to the huge bullæ of the *erythrurus* group.

Dimensions of the type, an old male in spirit:—

Head and body 183 millim.; tail 200; hind foot 41·5; ear 19·5.

Skull: basal length 41·2; greatest length in middle line 48; greatest breadth 27·5; nasals 19·6 × 5; interorbital breadth 8·5; tip to tip of postorbital processes 16; interparietal 5·6 × 8·7; palate, length from henselion 21·7; diastema 12·6; anterior palatine foramina 8·6; distance from hinder angle of zygoma to nearest point of wall of meatus 2·1.

Type. In spirit. B.M. No. 94.6.1.30.

This fine species, nearly or quite the largest of the genus, differs from every known *Meriones* in its practically naked soles, its dirty-coloured belly, and its darkened metatarsi. The only species for which it could be mistaken is *M. shawi*, but, besides the differences just mentioned, it is larger than that animal, and has a decidedly longer tail.

Of other Arabian species known, it may be mentioned that *M. crassus*, Sund., from Sinai, quite clearly belongs to the *erythrurus* group, with large bullæ, while *M. melanurus*, Rüpp., as

shown by two co-types in the Museum collection, is simply the eastern representative of the Algerian *M. shawi*.

The large burrows found among the bushes of *Salvadora persica* on the borderland between the desert and the cultivated ground appear to be the work of this species, although several other animals also inhabit them. Thus at the mouth of one burrow there were obtained examples of *M. rex*, *Gerbillus famulus*, *Acomys dimidiatus*, and a Lizard.

M. rex appears to be on the move in the early hours of the morning until about 8 A.M., and the specimens brought home were with one exception shot at the mouths of the burrows. Owing, apparently, to these animals feeding on the green shoots of the *Salvadora*, which fermented and distended the stomachs, it was exceedingly difficult to get the specimens back to camp in fit condition for skinning, so rapidly did they spoil.

25. ARVICANTHIS[1] VARIEGATUS, Licht.

a–f. Skins; *g–n*. In spirit. Lahej. III. 95.

This is the common Field-Rat of the neighbourhood of Lahej, and is to be found plentifully in the ditches separating the fields—in fact anywhere where the tall rank grass grows; it does not appear to venture into the desert, nor into the rank high reeds which cover the river-bed between Haithalhim and Zaidah.

The present is, so far as we are aware, the first recorded instance of the occurrence of this genus, hitherto known as "*Isomys*," off African soil. Although with slightly larger feet and tails than in examples from Egypt, these specimens do not appear to be specifically separable from the common form.

26. MUS DECUMANUS, Pallas.

a. Aden. II. 95.

Probably common, but no doubt introduced by sea.

27. MUS RATTUS TYPICUS, L.

a. ♀. One specimen. Aden. 19. IV. 95.

No doubt also introduced from some European ship. The marked difference between this and the indigenous *M. r. alexandrinus* is noteworthy.

28. MUS RATTUS ALEXANDRINUS.

a–r. Aden, Shaik Othman and Lahej. 17 specimens.

Very common and generally distributed; appears to be the common Rat of the neighbourhood. All the specimens are grey above and none have the reddish coloration of *M. r. rufescens*, Gr.

[1] Less. N. Tabl. R. A. p. 147 (1842). Type "*Lemmus niloticus*, Geoffr." (= *A. variegatus*). Syn. *Isomys*, Sund. K. Vet.-Ak. Handl. 1842, p. 219 (1843). Type "*Mus variegatus*." Thomas's attention was drawn to this unfortunate but necessary change by Mr. T. S. Palmer, of the U.S. Department of Agriculture, who has been devoting much labour to the subject of Mammal nomenclature.

29. Mus bactrianus, Blyth.

a. ♀? Lahej. 13. III. 95.

A pair were found nesting in a tree in the Sultan's garden at Lahej on the above date: the female was secured, but the male escaped. This was the only occasion on which the species was met with. The nest was in a hollow tree and was made of fine twigs and leaves of the Behr tree (*Zizyphus*, sp.).

This is the ordinary oriental representative of *Mus musculus*, of which it no doubt merely constitutes a subspecies. The typical *M. musculus* probably occurs in Aden itself, introduced from the shipping. Indeed "mice" were said to be common in the Hôtel d'Europe, although Yerbury failed to capture any of them.

30. Acomys dimidiatus, Rüpp.

a. ♂. Aden. 21. II. 95.
b. ♀. Aden. 24. II. 95.
c. Lahej. 10. III. 95.
d. ♂. Lahej. 13. III. 95.
e. Haithalhim. 25. III. 95.

The first two specimens are clearly *A. dimidiatus*, but the last three are more doubtful, and will need re-examination when further material is available.

Probably common. The Aden specimens were trapped round the house; the others at the earths of *Meriones rex*.

31. Hystrix leucura, Sykes.

a. ♂. Haithalhim. 23. III. 95.

The capture of this specimen is of much interest, as it was quite unknown what species of Porcupine occurred at Aden. The skull proves to be very similar to that of Indian examples of *H. leucura*, and wholly different to the inflated skulls of the African Porcupines *H. cristata*, *H. galeata*, and *H. africæ australis*. This resemblance to *H. leucura* confirms the reference of *H. hirsutirostris*, Wagn., which was based on a Palestine specimen, to the Indian species.

Dr. Matschie was perhaps rather venturesome in referring the Aden Porcupine to the South-African species, as he only had spines for examination, and these vary so much in different parts of the body as to be exceedingly difficult to make much of when loose and of uncertain origin.

Porcupines are very common (judging from the number of tracks) round Lahej and Haithalhim, but being nocturnal are seldom, if ever, seen. They are also very shy and cautious animals and will not, as a rule, enter a trap, therefore the way the above specimen was circumvented may be of interest. On arrival at Haithalhim tracks of Porcupines were found in every direction, and an attempt was made to shoot one by watching during the night, but without success; it was noticed, however, that the animals followed a path leading up from the bed of the Wady Kubeen to the cultivated grounds above, and an examination of the path in the morning

showed a place where the path for a couple of yards or so had cut itself deep into the soft soil and formed a trench about 18 inches wide and two feet deep.

A Brailsford dog-trap was set in this trench, and a watch kept as before in the nullah. In the small hours of the morning Porcupines were to be heard about, making a sort of grunting noise, and it was decided to try and drive one of them up the path. This manœuvre was successful, and the sound of the doors falling told the hunters that the Porcupine had been more afraid of them than of the strange metal case in front, and in attempting to rush through had got caught.

32. Lepus arabicus, Hempr. & Ehr.

a, *b*. Heads. Lahej. 7. III. 95.
c. ♂. Lahej. 17. III. 95.

These three specimens are probably conspecific, but whether or not two species exist at Aden is a moot point. Yerbury is inclined to believe that there are two Hares in the district, differing considerably in size. The smaller one may perhaps be Thomas's *L. omanensis*, described from Muscat.

33. Gazella bennetti, Sykes?

a. Frontlet ♂, without date, &c.

We are somewhat doubtful about our reference of this Gazelle to *G. bennetti*, but not only does this frontlet correspond very closely with Indian examples, but a specimen from Aden, now alive at the Zoological Gardens, has been referred by Mr. Sclater to the same species.

Gazelles are common inland round Aden, and possibly two or more species are to be met with in the neighbourhood.

34. Capra sinaitica, Hempr. & Ehr.

An Ibex appears to be not uncommon in the mountains inland, though the British officers who have been there after them on shikar expeditions do not appear to have been very successful. Horns are occasionally to be bought in Aden.

35. Halicore dugong, Ill.

Dugong are to be found at Little Aden. One was on view during March 1895 at Steamer Point, and another was thrown up on the beach in front of the European Infantry lines about the same time and caused the municipal authorities some trouble before the carcase was disposed of.

36. Balænoptera, sp.

The skull of a large Finner, perhaps *B. edeni*, is to be seen near the Eed Ghur, Camp Aden. The animal was said to have been cast ashore some 30 miles to the north-east, and the skull was brought to Aden because it was supposed that it might be useful for making knife-handles, &c.